

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No. : 10/563,463  
Applicant : Kimoon KIM  
Filed : January 5, 2006  
TC/A.U. : 1639  
Examiner : Christopher GROSS

Docket No. : 1751-393  
Customer No. : **06449**  
Confirmation No. : 1347

Director of the United States Patent  
and Trademark Office  
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RESPONSE TO RESTRICTION REQUIREMENT

In response to the restriction requirement mailed April 9, 2008, Applicants elect, with traverse, Group I, Claims 1-3 and 7-9, drawn to a cucurbituril covalently bonded to a silica modified support. As species to be initially examiner, Applicants elect formula (1) wherein each of  $R_1$  and  $R_1'$  is an alkenyloxy group with an unsaturated bond end, and with a substituted or unsubstituted  $C_1$ - $C_{20}$  alkyl moiety, and formula (2) wherein  $R_2$  represents a  $C_1$ - $C_{10}$  alkyl group having a thiol functional group at an end and the substrate is a glass. Claims 1-3 and 7-9 are readable on the elected species.

Applicants respectfully traverse the Restriction Requirement in view of the arguments set forth below. The present invention relates to a solid substrate to which a cucurbituril derivative is covalently bonded. The cucurbituril group permits a protein to be strongly bonded to the substrate via non-covalent bonds, and thus facilitates making a protein chip without loss of the function of the protein.

The present invention permits a cucurbituril to be modified by any  $R_1$  or  $R_1'$  if cucurbituril cavity is not blocked and the function of the cucurbituril on the substrate is not affected (refer to reference 1 regarding a glass and reference 2 regarding gold surface). Further, it is reported that various groups may be employed for  $R_1$  and  $R_1'$  in

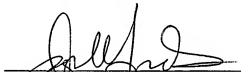
cucurbituril (reference 3), and that various groups may be employed for R<sub>2</sub> in the substrate in order to introduce various compounds to a substrate (reference 4) .

In conclusion, although various R<sub>1</sub> and R<sub>1</sub>' in cucurbituril and various R<sub>2</sub> in the substrate are employed, the cucurbituril derivative-bonded solid substrate of the present invention may have the same functionality, and thus all the pending claims constitute a single general inventive concept. Therefore, all the pending claims *are not deemed to lack unity of invention*. In view of the foregoing arguments, the Applicants respectfully request rejoinder of the claims.

Applicants reserve the right to pursue claims 4-6 in a divisional application.

Early and favorable action on the merits of this application is respectfully requested.

Respectfully submitted,



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